MEGA LECTURE

Conversion - Percentages, Fractions & Decimals

Question Paper 2

Level	IGCSE
Subject	Maths (0580)
Exam Board	Cambridge International Examinations (CIE)
Paper Type	Extended
Topic	Number
Sub-Topic	Conversion - Percentages, Fractions & Decimals
Booklet	Question Paper 2

Time Allowed: 64 minutes

Score: /53

Percentage: /100

Grade Boundaries:

A*	A	B	C	D	E	U
>85%	75%	60%	45%	35%	25%	<25%

1 Write

(a) 60 square metres in square centimetres,

Answer(a) .... cm^2 [1]

(b) 22 metres per second in kilometres per hour.

Answer(b) .... km/h [2]

2   A cruise ship travels at 22 knots.

[1 knot is 1.852 kilometres per hour.]

Convert this speed into metres per second.

Answer .... m/s [3]

3   $$\frac{3}{5} < p < \frac{2}{3}$$

Which of the following could be a value of *p*?

$$\frac{16}{27} \qquad 0.67 \qquad 60\% \qquad (0.8)^2 \qquad \sqrt{\frac{4}{9}}$$

Answer .... [2]

4   Lucy works in a clothes shop.

   (a) In one week she earned $277.20.

   (i) She spent $\frac{1}{8}$ of this on food.

   Calculate how much she spent on food.

   Answer(a)(i) $ .... [1]

   (ii) She paid 15% of the $277.20 in taxes.
   Calculate how much she paid in taxes.

   Answer(a)(ii) $ .... [2]

   (iii) The $277.20 was 5% more than Lucy earned in the previous week.
   Calculate how much Lucy earned in the previous week.

   Answer(a)(iii) $ .... [3]

   (b) The shop sells clothes for men, women and children.

   (i) In one day Lucy sold clothes with a total value of $2200 in the ratio

   men : women : children = 2 : 5 : 4.

   Calculate the value of the women's clothes she sold.

   Answer(b)(i) $ .... [2]

   (ii) The $2200 was $\frac{44}{73}$ of the total value of the clothes sold in the shop on this day.
   Calculate the total value of the clothes sold in the shop on this day.

   Answer(b)(ii) $ .... [2]

5   Lin scored 18 marks in a test and Jon scored 12 marks.
     Calculate Lin's mark as a percentage of Jon's mark.

                                          Answer .... % [2]

6   A tin of soup has the following information on the label.

200 grams of soup contains		
Protein	Carbohydrate	Fat
4 g	8.7 g	5.8 g

     (a) What fraction of the soup is Protein? Give your answer in its simplest form.

                                          Answer(a) .... [1]

     (b) What percentage of the soup is Carbohydrate?

                                          Answer(b) .... % [1]

7   Sima drinks 2.5 litres of water each day.
A full glass holds 125 millilitres of water.
How many full glasses of water does Sima drink each day?

Answer .... [2]

2

8   Calculate

$$\frac{5^2}{2^5}$$

(a) giving your answer as a fraction,

Answer (a) .... [1]

(b) giving your answer as a decimal.

Answer (b) .... [1]

9   The population of Newtown is 45 000.
     The population of Villeneuve is 39 000.

   (a) Calculate the ratio of these populations in its simplest form.   [1]

   (b) In Newtown, 28% of the population are below the age of twenty.
          Calculate how many people in Newtown are below the age of twenty.   [2]

   (c) In Villeneuve, 16 000 people are below the age of twenty.
          Calculate the percentage of people in Villeneuve below the age of twenty.   [2]

   (d) The population of Newtown is 125% **greater** than it was fifty years ago.
          Calculate the population of Newtown fifty years ago.   [2]

   (e) The two towns are combined and made into one city called Monocity.
          In Monocity the ratio of
                          men : women :children   is   12 : 13 : 5.
          Calculate the number of children in Monocity.   [2]

10   The population of Europe is 580 000 000 people.
     The land area of Europe is 5 900 000 square kilometres.

   (a) Write 580 000 000 in standard form.

                                        Answer (*a*)... [1]

   (b) Calculate the number of people per square kilometre, to the nearest whole number.

                                        Answer (*b*) .... [2]

   (c) Calculate the number of square **metres** per person.

                                        Answer (*c*).................................... m^2 [2]

11 A train starts its journey with 240 passengers.
144 of the passengers are adults and the rest are children.

(a) Write the ratio   Adults : Children   in its lowest terms.   [2]

(b) At the first stop, $37\frac{1}{2}\%$ of the adults and $\frac{1}{3}$ of the children get off the train.
20 adults and x children get onto the train.
The total number of passengers on the train is now 200.

    (i) How many children got off the train?   [1]

    (ii) How many adults got off the train?   [1]

    (iii) How many **adult** passengers are **on** the train as it sets off again?   [1]

    (iv) What is the value of x?   [1]

(c) After a second stop, there are 300 passengers on the train and the ratio

    Men : Women : Children   is 6 : 5 : 4.

Calculate the number of children now on the train.   [2]

(d) On Tuesday the train journey took 7 hours and 20 minutes and began at 13 53.

    (i) At what time did the train journey end?   [1]

    (ii) Tuesday's time of 7 hours 20 minutes was 10% more than Monday's journey time.
How many minutes longer was Tuesday's journey?   [2]

12 The top speed of a car is 54 metres per second.
Change this speed into kilometres per hour.

Answer ....km/h   [2]